
APPENDIX C

ELIMINATED ALTERNATIVES

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During the preliminary stages of development eight concept alternatives for relocation (Figure C-1) were identified based on the following considerations:

- Relatively flat topography to minimize earthwork for construction of the airport facilities
- Ability to support a crosswind runway
- No fill into lakes or ponds
- Minimize airspace penetrations caused by the surrounding hills – especially within the approach surfaces

Also, expanding the existing airport was considered to be a viable alternative. However, removing all of the obstructions was not viable due to the cost and impact to the community.

An initial evaluation was completed, and options with less desirable conditions were dropped. Reasons for elimination included:

- Runway or access road crossed swamps and creeks
- Alignment was too close to the hill (terrain penetrations)
- Low or swampy ground
- Too close to another equal or better alternative without offering any apparent advantage

Upon receiving three-quarter-year wind data, the alternatives were refined and reviewed in greater detail. This evaluation resulted in four relocation alignments (R1, R1A, R2, R3), extension of the existing runway along its present alignment (E1), and a skewed alignment at the existing airport site (E2), all shown on Figure C-2. Adding a crosswind runway at the existing airport was determined to be impracticable due to large expense and severely obstructed approach.

The process used for evaluation of the alternatives included engineering reviews, environmental scoping, and input from the community. The process is fully documented in the final scoping report (PDC, March 2004).

Following is the summary for each eliminated alternative in the order of elimination:

Alternative E2 was considered not substantially better than E1. The only gain was an additional 3% to wind coverage. E2 involved more wetlands, reused less of the existing site, and required more construction over poor ground, causing higher cost and a less stable facility.

Alternative R2 was eliminated because it offered only 92% wind coverage; required acquisition of land in Native Allotment US 12090; impacted more wetlands; and allowed only limited apron expansion without still greater wetlands impacts.

Alternative R1 was eliminated because it was oriented crosswind to the winter winds.

Alternative R1A (5-Mile Site) was eliminated during the process of selecting an engineering preferred alternative (PDC, 2004). It went through significantly more detailed analysis than the previous eliminated alternatives. It was analyzed along with Alternatives E1, R3 and the No-Build, using the following criteria:

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|--|---|
| ▪ Wind Coverage | ▪ Obstructions (fuel tanks, properties) |
| ▪ Wetlands Impacts | ▪ User Costs |
| ▪ Geology / Long Term Stability | ▪ Land Acquisition |
| ▪ M&O Costs | ▪ Landfill / Lagoon Locations |
| ▪ Construction Costs | ▪ Future Expansion Capabilities |
| ▪ Approach Capabilities
(terrain limitations) | ▪ Convenience of Access /
Proximity to Community |

Alternative R1A proposed a runway located 5.3 miles from Old Manokotak along the road and east of Manokotak Heights. Airport access would have come off the Weary River Road, approximately 2/3 mile east of the intersection with the road to Manokotak Heights. The apron would have been placed on the west side of the runway, nearest to the direction of access to reduce the potential for runway crossings.

Advantages:

- Provided 97.8% wind coverage
- Low instrument approach capabilities, making night flights possible in fairly poor weather

Disadvantages:

- Required “cut and fill” construction, generating a large amount of “waste” material
- Involved some airspace penetration
- Located within 3,000 feet of Manokotak Heights Subdivision and its sewage lagoon
- Too close to the subdivision, according to some Manokotak Heights residents

The key reasons for eliminating Alternative R1A were its proximity to the lagoon at Manokotak Heights Subdivision and the lack of community support.

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